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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,095	04/08/2004	Koji Fujiwara	1248-0712PUS1	7125

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EXAMINER	
SITTA, GRANT	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
07/30/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/820,095	FUJIWARA ET AL.	
	Examiner	Art Unit	
	Grant D. Sitta	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/08/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 8 objected to under 37 CFR 1.75 as being a substantial duplicate of claim 7. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Russell et al. (6,703,570) hereinafter Russell, in view of Redford et al (5,459,489) hereinafter Redford.

4. In regards to claim 1, Russell discloses the limitations of An input pen enabling a pen input on a display panel (col.3-4, lines 50-5); an infrared transmission means and an ultrasonic transmission means on the pen (col. 2, lines 15-45);

a infrared receive means that comprises at least two ultrasonic receivers and a infrared (IR) transmitter or receiver (fig. 1(18)(20); col. 4, lines 5-15) also, producing a signal when it is transmitting a ultrasonic frame by simultaneously transmitting a infrared synchronization signal to the base (Fig. 4 (62)(66) col. 6, lines 5-15); and a means for when the tip of the pen is in contact with the display panel (col. 2, lines 50-55);

a display control means computing a contact position of the pen tip on the display (col. 3-4, lines 65-30) containing a time delay such that the pen can signal when it is transmitting a ultrasonic frame by simultaneously transmitting a infrared synchronization signal to the base (Fig. 4 col. 6, lines 5-15); with at least two ultrasonic reception means (Fig. 1, (18), col. 4, lines5-20);

a pen pressure sensor on the pen for detecting when the pen is in contact with the display (col. 2, lines 50-65) and control means that controls the infrared transmission varying according to the pen pressure exerted on the pen tip (col. 2,.lines 45-65)

Russell differs from the claimed invention in that Russell does not disclose the "sequence input."

However, Redford teaches a system and method a sequence (fig. 5 (a), (b), and (c)) input means (fig.5 input 1 and input 2) enabling inputs (input1 and input 2) of a series of pen pressure levels (pen pressure levels as taught by Russell also col. 7, lines 18-23) in an order of frequency of use (fig. 5, (a), (b) and (c)); and

the pen pressure ((pen pressure levels as taught by Russell also col. 7, lines 18-23) information infrared transmission (fig. 6 (120) and (122)) control means controls (col. 22-50) the infrared transmission means(fig. 6 (120) and (122)) to change (fig. 5) the infrared signal (fig. 5, col 7, lines 1-18) in accordance with frequency (fig. 5 (a), (b), and (c)) of use (fig. 5 Input 1> Input 2, Input 2 > Input 1, Input 1=Input 2) of individual pen pressure levels (col. 7, lines 1-18, ..."held high is proportional to the value of the first analog input") as sorted (fig. 5 Input 1> Input 2, Input 2 > Input 1, Input 1=Input 2) through the sequence (fig. 5 (a), (b), and (c)) input means (fig.5 input 1 and input 2) input means (fig. 5, col. 7, lines 1-60 of Redford).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Russell to include the use of control means as taught by Redford in order to control infrared signals as stated in (col. 1, lines 58-70 of Redford).

5. In regards to claim 3, Russell discloses the limitations of an input pen (fig. 1 (10)) enabling a pen input on a display panel (fig. 1 (16), col. 4, lines 1-6); infrared transmission (col. 5, lines 30-50, "IR pulses transmitted by one or more IR transducers

56") means and ultrasonic transmission (fig. 2 (48), col. 5, lines 9-32) means provided on the input infrared (fig. 2) receive means (fig. 1 (20)) and at least two ultrasonic reception means (col. 4, lines 1-12, "With particular regard to the base 16, at least two ultrasonic (US) receivers 18"), provided on the display panel (col. 4, lines 1-11 "base" such as an "IBM Thinkpad®"), receiving an infrared signal and an ultrasonic signal (col. 4, lines 12-17, "The base 16 includes an internal processor 22 that communicates with the US receiver 18 and IR receiver) simultaneously (col. 6, lines 9-10) transmitted respectively from the infrared transmission means (col. 5,lines 32-60) and the ultrasonic transmission (fig. 2 (48), col. 5, lines 9-32) means provided on the input pen (fig. 1 (2)), when a pen tip (fig. 2 (34)) of the input pen (fig. 1 (2)) is in contact (col. 5, lines 56-60 "contact sensor") with the display panel(col. 4, lines 1-11 "base" such as an "IBM Thinkpad®"); and

display control means computing a contact position of the pen tip (fig. 2 (34)) on the display panel (col. 4, lines 1-11 "base" such as an "IBM Thinkpad®"), from a result, containing a time delay (col. 6, lines 10-16), of receiving the ultrasonic signal (col. 6, lines 16 "US signal") by the at least two ultrasonic reception means (col. 4, "With particular regard to the base 16, at least two ultrasonic (US) receivers...") with reference to a time when the infrared receive means receives the infrared signal (col. 6, lines 1-20), said input pen (fig. 1 (2)) including pen pressure sensor (col. 5, lines "contact sensors can include, e.g. force sensing resistors or other force sensors") means sensing pen pressure (col. 5, line 32-60) when the pen tip (fig. 1 (2)) is in contact (col. 5 line 51, "pen tip touches the substrate...") with the display panel (col. 4, lines 1-11

"base" such as an "IBM Thinkpad®"); and pen pressure information (col. 5, lines 50-60, "electronically generated") infrared transmission control means controls the infrared transmission (col. 5, lines 45-60) means transmit the infrared signal which changes in accordance with the pen pressure(col. 5, lines 45-50), wherein the pen pressure information infrared transmission control means controls the infrared transmission means to transmit the infrared signal with varied pulse widths in accordance with the pen pressure (col. 5, lines 35-60, "when the base receives the signal from the IR transducer, the processor can determine how hard the person is pressing down against the substrate based on the pulse width,...", and

Russell differs from the claimed invention in that Russell does not disclose varying the IR pulse width on the pen.

However, Russell teaches a system and method for varying the IR pulse width on the base (col. 6, lines 50-53 of Russell). wherein: the input pen (fig. 1 (2)) further includes sequence input (Redford, fig. 5 (a), (b), and (c)) input means (fig.5 input 1 and input 2) and (col. 6, lines 40-55, "power adjust routine") means enabling inputs (fig. 5) of a series of pen pressure levels (fig. 5 "pulse upper limits") as sorted by frequency of use (fig. 5, (74) and (75) sort); and the pen pressure information (col. 5, lines 50-60, "electronically generated") infrared transmission control means (fig. 2 (50), (52), (44)) controls the infrared transmission means (fig. 2 (56)) to transmit the infrared signal with pulse widths (col. 4, lines 45-60) which grow longer in descending sequence (Redford, ig. 5 (a), (b), and (c)) input means (fig.5 input 1 and input 2) and (col. 40-55) of frequency of use (fig. 5) of individual pen pressure levels as sorted through the

sequence input means (Redford, fig. 5 (a), (b), and (c)) input means (fig.5 input 1 and input 2) and (col. 5, lines 40-55, and col. 5, lines 46-50). Examiner notes, fig.4 col. 4, 5-25.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Russell to include the use of IR pulse modulation in the pen instead of the base as taught by Russell in order to conserve space on the base.

6. In regards 9, Russell teaches an infrared transmitter transmitting (fig. 2 (56)) an infrared signal (col.5, lines 32-60), for communicating with an infrared receiver (fig. 1 (20)) associated with a display device (col. 4, lines 1-11 "base" such as an "IBM Thinkpad®"); an ultrasonic transmitter (fig. 2 (48)) for communicating with an ultrasonic receiver (col. 4, lines 1-12, "With particular regard to the base 16, at least two ultrasonic (US) receivers 18") associated with a display device (col. 4, lines 1-11 "base" such as an "IBM Thinkpad®"); a pen pressure sensor (col. 5, lines "contact sensors can include, e.g. force sensing resistors or other force sensors") sensing pen pressure against a surface and producing (col. 5, lines 32-60) a first output in response (fig. 4 (62)) to a first sensed pressure level (fig. 4 (62) on or pressure) and a second output in response to a second sensed pressure level (fig. 4 (62) off or no pressure); and a controller for controlling the infrared transmitter to produce a first signal (fig. 4 (62) on or pressure) when said first (col. 6, lines 5-40) pressure level is detected and a second signal (fig. 4 (62) off or no pressure); when said second pressure level is detected (col. 6, lines 5-40),

said controller having a sequence input mode (Redford, fig. 5 (a), (b), and (c)) input means (fig.5 input 1 and input 2) enabling inputs of a series of pen pressure levels (fig. 4, (62) on/off status) in an order of frequency of use (fig. 4 and fig. 5 col. 5-60). Examiner notes Russell teaches different modes of input, for example, in fig. 4 (62) determines frequency of use and when there is no use (64) varies the Ultrasonic signal and then adjusts the next IR synchronization pulse accordingly.

7. In regards to claim 10, Russell teaches a display device (fig. 1 (16), col. 4, lines 1-6) comprises an infrared receiver (fig. 1 (20)) and at least two ultrasonic receivers (col. 4, lines 1-12, "With particular regard to the base 16, at least two ultrasonic (US) receivers 18"); and the input pen comprises an infrared transmitter (fig. 2 (56)), an ultrasonic transmitter (fig. 2 (48)) and a pressure sensor (col. 5, lines "contact sensors can include, e.g. force sensing resistors or other force sensors") producing a signal related to a contact pressure (col. 5, lines 32-60) between the input pen (fig. 1 (2) and the display device ((fig. 1 (16), col. 4, lines 1-6); wherein the display device (fig. 1 (16), col. 4, lines 1-6) further includes a controller (fig. 1 (16), col. 3-4, lines 55-10) for determining a location (fig. 1 col. 4, lines 10-30) of the input pen (fig. 1 (2)) on the display device (fig. 1 (16), col. 4, lines 1-6) when the input pen contacts the display device based on infrared and ultrasonic signals received (fig. 4 and 5 col. 6, lines 5-10) by the display device from the input pen (fig. 1 (16)and (2)); and wherein the infrared transmitter sends a signal (fig. 4 (62)) that varies (fig. 4 (64) IR pulse varies whether there is contact or no contact) with the sensed contact pressure (fig. 4 (62)) between the

input pen (fig. 1 (2)) and the display device (fig. 1 (16), col. 4, lines 1-6) in a manner determined by a sequence input (Redford, fig. 5 (a), (b), and (c)) input means (fig.5 input 1 and input 2) of a user (fig. 4 (62)) Examiner notes the sequence is determined whether the user makes contact with the pen tip.

8. In regards to claim 11, Russell teaches providing a display device (fig. 1 (16), col. 4, lines 1-6); having an infrared receiver (fig. 1 (20)) and an ultrasonic receiver(col. 4, lines 1-12, "With particular regard to the base 16, at least two ultrasonic (US) receivers 18");

providing an input pen (fig. 1 (2) including an infrared transmitter (fig. 2 (56)) for transmitting an infrared signal (col.5, lines 32-60), an ultrasonic transmitter (fig. 2 (48)) for transmitting an ultrasonic signal (col.5, lines 32-60),, and a pen pressure sensor sensing (col.5, lines 32-60) pen pressure against the display (fig. 1 (16), col. 4, lines 1-6) and producing a pressure signal (col.5, lines 32-60) related to pen pressure against the display (fig. 1 (16), col. 4, lines 1-6); transmitting an infrared signal (col.5, lines 32-60, "IR pulse") and an ultrasonic signal when the input pen contacts the display (fig. 4 (64), (66), and (68); determining a location of pen contact (fig. 4 (62 and 68)) on the display from the infrared signal (fig. 4, (64) "IR pulse") and the ultrasonic signals (fig. 4 (64), "US signal); and varying the infrared signal in response to a user input related to a frequency of use of pressure levels and in response to changes in pen pressure against the display (fig. 5, col. 40-67). Examiner notes the IR from the base are varied in response to the contact pressure.

Response to Arguments

9. Applicant's arguments, see "Remarks", filed 4/25/2007, with respect to the rejection(s) of claim(s) 1-15 under Russell have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Russell and Redford.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Grant D. Sitta whose telephone number is 571-270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-270-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Grant D. Sitta

July 23, 2007

AMARE MENGISTU
SUPERVISORY PATENT EXAMINER